



Standard Operating Procedure Refuse Disposal Division



Landfill Gas Management

Gas Probe Monitoring

Before leaving the office, complete *Per-Use Instrument Inspection Checklist* and make sure that you have everything you need to monitor a gas probe:

1. Take site map showing monitoring Probe locations.
2. Take the appropriate data log sheet.
***Note** – There may be different reports for the same site depending on the monitoring frequency mandated by the Local Enforcement Agency (bi-weekly, monthly, etc...).
3. Take your personal protective equipment (steel toe shoes, sun glasses, hat, sun screen lotion, knee pads, water, etc...)
4. Take necessary tools to lift/ open probe vault lid.
5. Take a steel-hand brush and a towel to clean around the vault covers to insure proper sealing.

Upon Arrival:

1. Identify the probe vault and remove vault lid.
2. Note in the appropriate field log any unusual conditions (such as broken lab cock on the probe, missing or broken vault covers, flooded, etc...)
3. Read the **Initial Static Pressure** and calibrate to “Zero Pressure” using the following procedure:
 - a. Turn on GEM 500 by pressing the red button on the keyboard;
 - b. When prompted, press **Key 0** to “Cont” (continue);
 - c. At the menu screen, press **Key 2** to “Read Gas Levels;”
 - d. When prompted, press **Key 2** to select “No” to “Read Using ID?”
 - e. At the menu screen press **Key 2** to “Cont” (continue);
 - f. At the menu screen, press **Key 3** to “Zero Pressure;”
 - g. Remove all hoses from the GEM 500, then press any key on the keyboard;
 - h. At the menu screen, press **Key 1** to “Zero Pressure;”
 - i. At the menu screen, press **Key 0** to “Exit;”
 - j. Connect one end of ¼” flexible tubing to gas intake port of GEM 500 and the other end to lab cock on the probe;
 - k. At the menu screen, press **Key 0** to “Continue;”
 - l. Open lab cock so that the valve handle is aligned perpendicular to the ground;
 - m. Read the static pressure when the reading on the GEM 500 stabilized and note on daily field log;
 - n. Remove ¼” flexible tubing from the lab cock on the landfill gas probe.

4. Read **Gas Levels** using the following procedure:
- Attach one end of ¼" flexible tubing to the end of the lab cock on the probe and the other end to the gas intake port of the GEM 500 landfill gas analyzer.
 - When prompted, press **Key 0** to "Cont" (continue);
 - At the menu screen, press **Key 2** to "Read Gas Levels;"
 - When prompted, press **Key 2** to select "No" to "Read Using ID?"
 - When ready, press **Key 5** to start the pump on the GEM 500. The seconds counter (clock) on the GEM 500 will start at the same time as the pump.
 - When the time counter on the GEM 500 screen reaches the time recorded on the data log sheet, record the highest methane level displayed on the GEM 500 screen.

Benefit of Compliance to Instruction:

- Detect any landfill gas off-site migration, which may be a threat to the public health and safety
- Comply with Regulatory Agency(s) guidelines
- Provide accurate, complete and consistent data

Consequence of Non-Compliance to Instruction:

- Violations and/or fines from Regulatory Agency
- Inaccurate and inconsistent readings
- Useless data that must be sampled again

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